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TITLE : SURFACE TREATMENT OF STAINLESS STEEL

ABSTRACT : PURPOSE: To improve the corrosion resistance of stainless steel at a low cost by immersing the steel in a mixed aqueous soln. contg. chromic acid and sulfuric acid and by cathodically electrolyzing the steel at a low current density in an aqueous soln. prepd. by adding sulfuric acid or the like to an aqueous chromic acid soln.

CONSTITUTION: Stainless steel is immersed in a mixed aqueous soln. contg. \geq about 100g/l CrO_3 and \geq about 300g/l sulfuric acid at about $\geq 50^\circ\text{C}$ for about 2-60min to form a passivated film. The steel is then immersed in an aqueous soln. prepd. by adding about 1/50-1/200mol/l one or more among sulfuric acid, phosphoric acid, nitric acid and molybdate to an aqueous soln. contg. \geq about 100g/l chromic acid and the steel is cathodically electrolyzed at such a low current density as $\leq 5\text{A}/\text{dm}^2$ for about 3-10min. Thus, the corrosion resistance of the stainless steel is improved without deteriorating the quality.

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